



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
21.12.2005 Bulletin 2005/51

(51) Int Cl.7: **B23H 3/02**

(43) Date of publication A2:
11.05.2005 Bulletin 2005/19

(21) Application number: **04256970.7**

(22) Date of filing: **10.11.2004**

(84) Designated Contracting States:
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IS IT LI LU MC NL PL PT RO SE SI SK TR**
Designated Extension States:
AL HR LT LV MK YU

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(30) Priority: **10.11.2003 US 706472**

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(54) **Electrochemical machining method, tool assembly, and monitoring method**

(57) In an electrochemical machining tool assembly having at least one electrode (26) arranged across a gap (34) from a workpiece (12), the electrode being energized by application of a potential difference ΔV between the electrode and the workpiece, a method of monitoring machining includes exciting at least one ultrasonic sensor (42) to direct an ultrasonic wave toward a surface (102) of the electrode and receiving a reflected

ultrasonic wave from the surface of the electrode using the ultrasonic sensor. The reflected ultrasonic wave includes a number of reflected waves from the surface of the electrode and from a surface of the workpiece. The method further includes delaying the excitation of the ultrasonic sensor a dwell time T_d after a reduction of the potential difference ΔV across the electrode and the workpiece occurs.

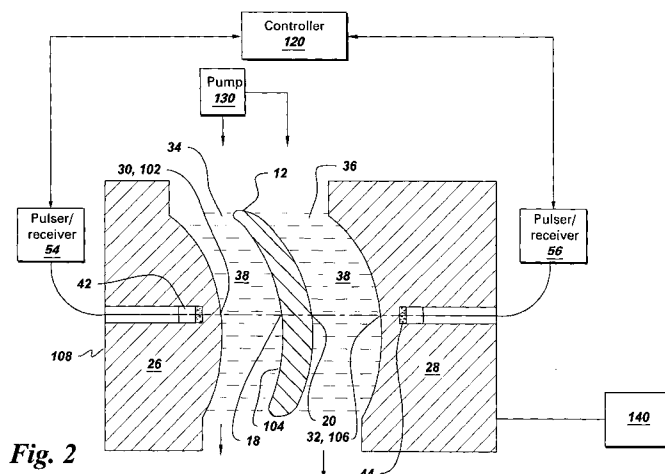


Fig. 2



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 04 25 6970

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
D,A	US 6 355 156 B1 (LI WEI ET AL) 12 March 2002 (2002-03-12) * column 4, line 14 - line 42 * * column 5, line 39 - line 45 * -----	1-10	B23H3/02
A	US 5 672 263 A (RAULERSON ET AL) 30 September 1997 (1997-09-30) * abstract; figures * -----	1-10	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			B23H
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 27 October 2005	Examiner Haegeman, M
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 04 25 6970

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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27-10-2005

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